

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 09080250  
PUBLICATION DATE : 28-03-97

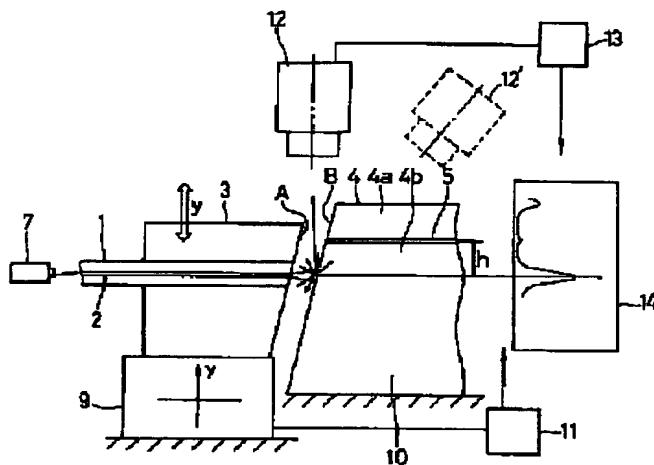
APPLICATION DATE : 11-09-95  
APPLICATION NUMBER : 07232149

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INT.CL. : G02B 6/24 G02B 6/26 G02B 6/36  
G02B 6/38

TITLE : AUTOMATIC POSITIONING  
MECHANISM FOR OPTICAL FIBER  
SPLICING



ABSTRACT : PROBLEM TO BE SOLVED: To automatically perform the positioning for an optical fiber splice by deciding output variation of an optical sensor and recognizing the relative positions of splicing surfaces A and B, and driving a moving mechanism according to them.

SOLUTION: A light source 7 is driven to make a light beam incident on the core 2 of an optical fiber 1, and the light beam is projected from the core end surface of the splicing surface A to irradiate the connection surface of an optical waveguide 4. The optical sensor 12 detects the light (scattered light, reflected light, etc.) emitted from the irradiate part of the splicing surface B and its output is inputted to an information analysis part 13. A fine adjustment stage 9 is moved in a Y direction to move up and down an optical fiber block and the largest intensity or spot diameter of the emitted light is detected to find the border position between a lower clad 4b and a silicon substrate 10. The optical fiber block 3 is elevated through the fine adjustment stage 9 by the interval (design value) (h) between the border and the core 5 of the optical waveguide 5 to align the core 2 of the optical fiber and the core 5 of the optical waveguide 4 with each other.

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